OW NCA Briefing Follow-up Information

Author Information

Volume II:

Type	Organizations	Authors
Federal	23	162
NGO	17	18
State	15	17
Contractor	8	12
National Lab	6	7
Tribe	6	6
City	2	3
Industry	3	3
International	1	1
University	57	101

Industry authors (1 author each)

- Archibald Energy Group
- Electric Power Research Institute
- Oklahoma Association of Electric Cooperatives

Commercial/Contractors (no. of authors in parentheses)

- ICF International (4)
- Rand Corporation (3)
- Abt Associates (1)
- Aponte & Asociados (1)
- CH2M (1)
- Silvestrum Climate Associates (1)
- South Coast Engineers (1)

NGO authors (no. of authors in parentheses)

- The Center for Climate and Security (2)
- Adaptation International (1)
- Brookings Institution (1)
- Desert Research Institute (1)
- East West Gateway (1)
- East-West Center (1)
- Environmental Solutions Limited (1)
- International Research Institute for Climate and Society (1)
- Kresge Foundation (1)

- Livelihoods Knowledge Exchange Network (1)
- Nature Conservancy (1)
- Paulson Institute (1)
- Southern Climate Impacts Planning Program (1)
- Tall Timbers Research Station (1)
- The Nature Conservancy (1)
- The Pew Charitable Trusts (1)
- Union of Concerned Scientists (1)

Climate Science Special Report

Type	Organizations	Authors
Federal	14	24
Universities	15	20
Contractor	1	1
National Lab	3	5
Industry	1	1

Regarding the selection of authors, the process was outlined in Federal Register Notice in March 2016. The qualifications of nominees were evaluated by the coordinating lead authors (all Federal) and the names of qualified nominees were given to the Federal Steering Committee to make final selections. The Steering Committee tried to develop author teams that represented a balance of perspectives, including those of industry.

The low number of industry authors was noted as a problem during the development of the previous assessment. The industry authors we did have made it clear that participation in the NCA was not seen as a priority by their industries for two main reasons: (1) it represented a major commitment of time; and (2) the NCA does not address mitigation options, costs, or policies.

Uncertainty Language

Confidence Level

Very High: Strong evidence (established theory, consistent results, well documented and accepted methods, etc.), high consensus
High: Moderate evidence (several sources, some consistency, methods vary and/or documentation limited, etc.), medium consensus
Medium: Suggestive evidence (a few sources, limited consistency, models incomplete, methods emerging, etc.), competing schools of thought
Low: Inconclusive evidence (limited sources, extrapolations, inconsistent findings, poor documentation and/or methods not tested, etc.), disagreement or lack of opinions among experts

Likelihood

Very Likely: ≥ 9 in 10
Likely: ≥ 2 in 3
As Likely as Not: ≈ 1 in 2

Unlikely: ≤ 1 in 3
Very Unlikely: ≤ 1 in 10

Traceable Accounts

Key Message 3: Social Challenges Intensified

Key Message 3: As the pace and extent of coastal flooding and erosion accelerate, climate change impacts along our coasts are exacerbating preexisting social inequities, as communities face difficult questions about determining who will pay for current impacts and future adaptation and mitigation strategies and if, how, or when to relocate. In response to actual or projected climate change losses and damages, coastal communities will be among the first in the nation to test existing climate-relevant legal frameworks and policies against these impacts and, thus, will establish precedents that will affect both coastal and non-coastal regions. (*Likely, Very high confidence*)

Description of evidence base

Reports and peer-reviewed articles are clear that socioeconomic challenges are being both driven and intensified by climate change (Morris and Deterding, 2016). Particularly on the coasts, where there are multiple risks to contend with, including hurricanes, SLR, shoreline erosion, and flooding, the high cost of adaptation is proving to be beyond the means of some communities and groups (Liu et al., 2015; Binita et al., 2015; Wang and Yarnal, 2012). In areas where relocation is more feasible than in-place adaptation, coastal tribes of Indigenous people are at risk of losing their homes, cultures, and ways of life as they seek higher ground (Moerlein and Carothers, 2012; Himes-Cornell and Kasperski, 2015; see Ch. 15: Tribal & Indigenous, Key Message 3). New tools are being developed to quantify risks and vulnerabilities along the coast (Bjarnadottir et al., 2011; Thatcher et al., 2013). Tools such as the Coastal Community Social Vulnerability Index (Bjarnadottir et al., 2011) and the Coastal Economic Vulnerability Index (Thatcher et al., 2013) measure the social vulnerability of hurricane- or flood-prone areas to better quantify and predict how climate-driven changes are likely to impact marginalized groups. The Coastal Flood Exposure Mapper (www.coast.noaa.gov/digitalcoast/tools/floodexposure.html) tool supports communities that are assessing their coastal hazard risks and vulnerabilities with user-defined maps that show the people, places, and natural resources exposed to coastal flooding. The U.S. Environmental Protection Agency's Environmental Justice Screening and Mapping Tool provides consistent national data that allows the agency to protect the public health and environments of all populations, with a focus on traditionally underserved communities. Moreover, involving diverse representation in the adaptation process through community-driven resilience planning (Gonzalez et al., 2017) is likely to be a part of developing adaptation strategies that are fair and just (Bin Kashem et al., 2016; Paolisso et al., 2012).

Major uncertainties

The main uncertainty for this Key Message is predicated on how different types of coastal effects (chronic flooding versus storms) will impact areas and communities along the coast. The degree of variation between communities means that it will be challenging to predict exactly which communities will be affected and to what extent, but the evidence thus far is clear: when it comes to climate-driven challenges and adaptation strategies, areas that have traditionally been underrepresented will continue to suffer more than wealthier or more prominent areas. Large-scale infrastructure investments are

made in some areas and not others, and some local governments will not be able to afford what they need to do.

The variability in state laws and the pace at which those laws are evolving (such as shoreline management plans and setback policies for structures in the coastal zone) create major uncertainty.

Description of confidence and likelihood

We have very high confidence that structural inequalities in coastal communities will be exacerbated by climate change and its attendant effects (e.g., storms, erosion). In the absence of clear policies and legal precedent, questions about land ownership and home ownership will persist.